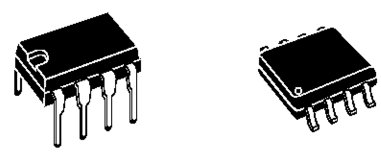
SGS-THOMSON MICROELECTRONICS

TDA7233
TDA7233D

1W AUDIO AMPLIFIER WITH MUTE

- OPERATING VOLTAGE 1.8 TO 15V
- EXTERNAL MUTE OR POWER DOWN FUNCTION
- IMPROVED SUPPLY VOLTAGE REJECTION
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION



Minidip **SO8**

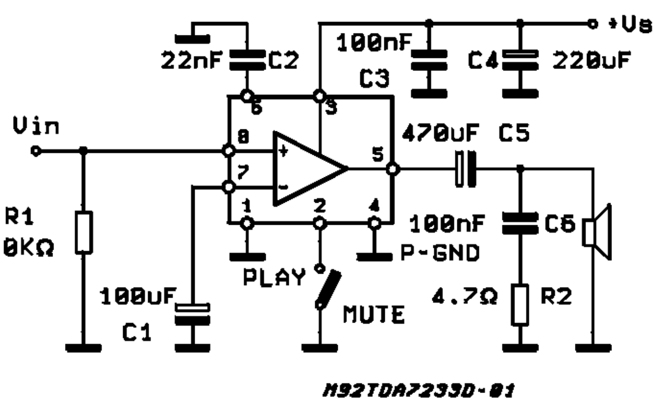
ORDERING NUMBERS:

TDA7233 TDA7233D

DESCRIPTION

The TDA7233/D is a monolithic integrated circuit in 8 pin Minidip or SO8 package, intended for use as class AB power amplifier with a wide range of supply voltage from 1.8V to 15V in portable players, cordless telephones and Cellular Radios.

TEST AND APPLICATION CIRCUIT

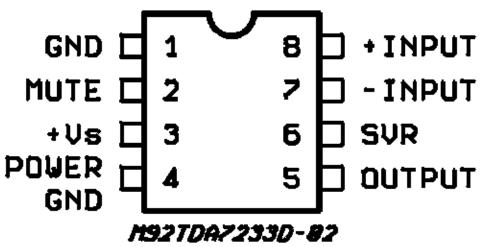


Note: Switch Open = Mute
Switch Closed = Play

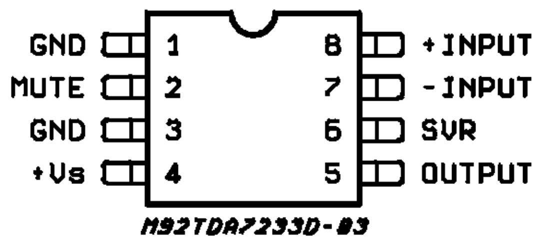
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage	16	V
I_O	Output Peak Current	1	A
P_{tot}	Total Power Dissipation at T_{amb} = 50°C	1	W
T_{stg}, T_j	Storage and Junction Temperature	–40 to 150	°C

PIN CONNECTIONS (Top views)



Minidip



SO8

THERMAL DATA

Symbol	Parameter	SO8	Minidip	Unit
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient Max.	200	100	°C/W

ELECTRICAL CHARACTERISTICS (V_s = 6 V, T_{amb} = 25 °C, unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_s	Supply Voltage		1.8		15	V
V_o	Quiescent Out Voltage			2.7		V
		V_s = 3 V V_s = 9 V		1.2 4.2		V V
I_d	Quiescent Drain Current	MUTE HIGH		3.6	9	mA
		MUTE LOW		0.4		
I_b	Input Bias Current			100		nA
P_o	Output Power	d = 10 % f = 1 KHz V_s = 12 V R_L = 8 Ω V_s = 9 V R_L = 4 Ω V_s = 9 V R_L = 8 Ω V_s = 6 V R_L = 8 Ω V_s = 6 V R_L = 4 Ω V_s = 3 V R_L = 4 Ω V_s = 3 V R_L = 8 Ω		 1.9 1.6 1 0.4 0.7 110 70		 W W W W W mW mW
d	Distortion	P_o = 0.5 W f = 1 kHz R_L = 8 Ω V_s = 9 V		0.3		%
G_v	Closed Loop Voltage Gain	f = 1 kHz		39		dB
R_{IN}	Input Resistance	f = 1 kHz	100			KΩ
e_N	Total Input Noise (R_s = 10 kΩ)	B = Curve A		2		µV
		B = 22 Hz to 22 kHz		3		
SVR	Supply Voltage Rejection	f = 100 Hz, R_g = 10 KΩ		45		dB
	MUTE Attenuation	V_o = 1 V f = 100 Hz to 10 kHz		70		dB
	MUTE Threshold			0.6		V
I_M	MUTE Current	V_S = 15V		0.4		mA

Figure 1: Output Power vs. Supply Voltage

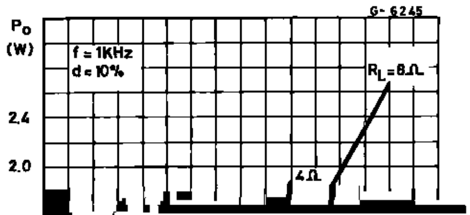


Figure 2: Supply Voltage Rejection vs. Frequency

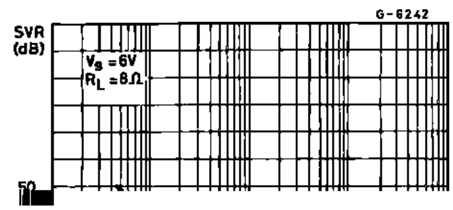


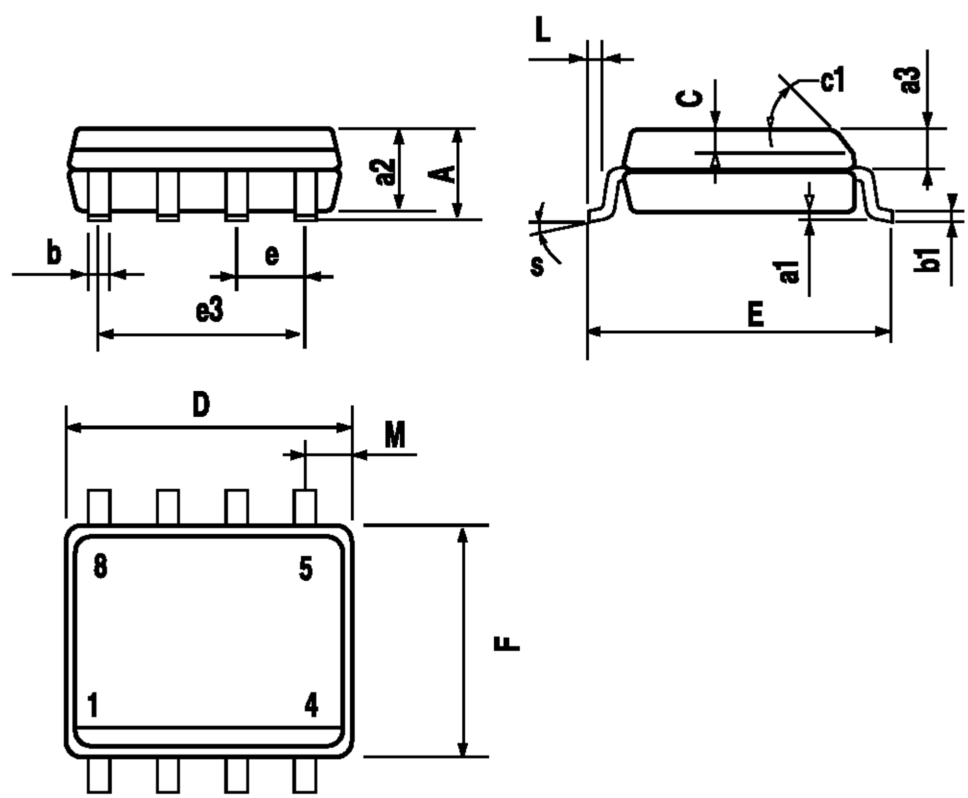
Figure 3: DC Output Voltage vs. Supply Voltage

Figure 4: Quiescent Current vs. Supply Voltage

Figure 5: Total Dissipated Power vs. Supply Voltage

SO8 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.75			0.069
a1	0.1		0.25	0.004		0.010
a2			1.65			0.065
a3	0.65		0.85	0.026		0.033
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.020
c1	45° (typ.)					
D	4.8		5.0	0.189		0.197
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F	3.8		4.0	0.15		0.157
L	0.4		1.27	0.016		0.050
M			0.6			0.024
S	8° (max.)					



MINIDIP PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
I			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

